



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

July 27, 2006

Southern Nuclear Operating Company, Inc.
ATTN: Mr. H. Lewis Sumner
Vice President - Farley Project
P. O. Box 1295
Birmingham, AL 35201-1295

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT - NRC INTEGRATED INSPECTION
REPORT 05000348/2006003, 05000364/2006003, AND 07200042/2006001

Dear Mr. Sumner:

On June 30, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Joseph M. Farley Nuclear Plant, Units 1 and 2. The enclosed integrated inspection report documents the inspection findings, which were discussed on July 7, 2006, with Mr. Randy Johnson and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents two inspector identified findings and one self-revealing finding, all of very low safety significance (Green). These findings were determined to involve violations of NRC requirements. However, because of the very low safety significance and because they were entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs), in accordance with Section VI.A of the NRC's Enforcement Policy. If you contest these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the United States Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Farley Nuclear Plant.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response (if any) will be available electronically for public inspection in the

NRC Public Document Room or from the Publicly Available Records (PARS) component the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Scott M. Shaeffer, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Docket Nos. 50-348, 50-364, and 72-42
License Nos. NPF-2 and NPF-8

Enclosure: Inspection Report 05000348/2006003, 05000364/2006003, and
07200042/2006001
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

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Letter to H. Lewis Sumner from Scott Shaeffer dated July 27, 2006

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT - NRC INTEGRATED INSPECTION
REPORT 05000348/2006003, 05000364/2006003, AND 07200042/2006001

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REGION II

Docket Nos.: 50-348, 50-364, 72-42

License Nos.: NPF-2, NPF-8

Report Nos.: 05000348/2006003, 05000364/2006003, and 07200042/2006001

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Joseph M. Farley Nuclear Plant

Location: 7388 N. State Highway 95
Columbia, AL 36319

Dates: April 1- June 30, 2006

Inspectors: C. Patterson, Senior (Sr.) Resident Inspector
J. Baptist, Resident Inspector
K. VanDoorn, Sr. Reactor Inspector (Section 1R08)
R. Chou, Reactor Inspector (Section 1R08)
E. Michel, Reactor Inspector (Sections 1R08, 4OA2)
M. Scott, Reactor Inspector (Section 4OA2)
L. Lake, Reactor Inspector (Section 4OA2)
G. Kuzo, Sr. Health Physicist (Sections 2OS1, 4OA1)
A. Nielsen, Health Physicist (Sections 2OS2, 4OA1)
N. Griffis, Health Physicist (Sections 2PS2, 4OA5)

Approved by: Scott M. Shaeffer, Chief
Reactor Projects Branch 2
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000348/2006003, 05000364/2006003, and 07200042/2006001; 04/01/2006-06/30/2006; Joseph M. Farley Nuclear Plant, Units 1 & 2; Problem Identification & Resolution, Refueling and Other Outage Activities.

The report covered a three-month period of inspection by the resident inspectors, five regional-based Reactor Inspectors, and three Health Physicists. Three Green non-cited violations were identified. The significance of most findings are indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July, 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

C Green. A Green non-cited violation (NCV) of 10 CFR 50.55a (a) (2) was identified by the NRC for the licensee failing to comply with the ASME Boiler and Pressure Vessel Code, Section XI, for Class 2 Components. The licensee failed to meet the ASME Code requirements for a Unit 2 Charging Safety Injection pump casing replacement, when they did not obtain a completed NIS-2 form signed by the Authorized Nuclear Inservice Inspector (ANII).

The finding is more than minor because it affected the mitigating systems cornerstone objective to assure the reliability of systems that respond to events to prevent undesirable consequences and was associated with the design control attribute in that qualification remains questionable. The finding was evaluated as very low risk significance (Green) because it was a qualification deficiency confirmed not to result in a loss of operability. This finding has been entered into the licensee's corrective Action Program. (Section 4OA2.2)

C Green. A Green non-cited violation (NCV) of Technical Specification 5.4, Procedures, was identified by the NRC for failure to follow procedural guidance associated with removal of debris in containment. The licensee performed a containment inspection; however, failed to follow adequate procedural guidance to ensure the containment environment was acceptable for power operations.

This finding is more than minor because it could be reasonably viewed as a precursor to a significant event involving debris accumulation on the containment sump screens and a subsequent impairment to suction flow for Emergency Core Cooling System (ECCS) pumps. Although it impacted the Mitigating System Cornerstone, it did not result in a loss of function per Inspection Manual Chapter (IMC) Part 9900, Technical Guidance, Operability Determination Process for Operability and Functional Assessment, did not represent an actual loss of safety function, and was not potentially risk significant due to possible external events. This finding was entered into the licensee's corrective action program. (Section 1R20)

Cornerstone: Barrier Integrity

C Green. A Green self-revealing non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion VII, Control of Purchased Material, Equipment, and Services, was identified for failure to control adequately contractors during the Unit 1 refueling outage that resulted in damage to the fuel transfer system. This was a self-revealing violation when a pillar block weld broke resulting in damage to the transfer cart, rails, basket, and dummy fuel assembly. The licensee entered the deficiency into their corrective action program for resolution.

This finding is more than minor because it could be reasonably viewed as a precursor to a significant event involving damage to a fuel assembly. Although the damage occurred to a dummy fuel assembly, the stresses applied to the fuel transfer system occurred during core offload and it is was fortuitous that the failure happened when a dummy assembly was in the fuel transfer basket. This finding is of very low safety significance because no damage to a fuel assembly actually occurred. (Section 1R20)

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

Unit 1 operated at or near Rated Thermal Power (RTP) until April 8, 2006, when the unit was shutdown to begin a refueling outage. The outage ended on May 24, 2006. The unit operated at RTP until June 30, 2006 when the unit was shutdown due to an inoperable main steam isolation valve.

Unit 2 operated at or near 100% RTP for the duration of the reporting period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment

a. Inspection Scope

Partial System Walkdowns. The inspectors performed partial walkdowns of the following three systems to verify they were properly aligned when redundant systems or trains were out of service. The walkdowns were performed using the criteria in licensee procedures FNP-0-AP-16, Conduct of Operations - Operations Group, and FNP-0-SOP-0, General Instructions to Operations Personnel. The walkdowns included reviewing the Updated Final Safety Analysis Report (UFSAR), plant procedures and drawings, checks of control room and plant valves, switches, components, electrical power line-ups, support equipment, and instrumentation.

C 1-2A, 2B, 1C, 2C Emergency Diesel Generators (EDGs) while 1B EDG out of service.
C 1B Motor Driven Auxiliary Feedwater (MDAFW) Pump during 1A MDAFW freeze seal maintenance activities.

C 2B and 2C Service Water (SW) Pumps while 2A SW pump was out of service.

Complete Walk-down. The inspectors conducted a complete walkdown of the accessible portions of the Unit 1 Residual Heat Removal system (RHR). The inspectors used licensee procedure FNP-1-SOP-7.0A, Residual Heat Removal System and drawings D-175038 and D-175041, to verify adequate system alignment of on-service equipment. The inspectors also interviewed personnel and reviewed control room logs, Maintenance Rule (MR) monthly reports, condition reports (CRs), quarterly system health reports, outstanding work orders, and industry operating experience to verify that alignment and equipment discrepancies were being identified and appropriately resolved. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified. The inspectors did identify one valve that was improperly sealed. The licensee immediately corrected the valve status and captured the issue in CR 2006105758. The position of the valve was correct and the function of the system was not compromised due to this discrepancy.

1R05 Fire Protection

a. Inspection Scope

Fire Area Tours. The inspectors conducted a walk-down of the seven fire areas listed below to verify the licensee's control of transient combustibles, the operational readiness of the fire suppression system, and the material condition and status of fire dampers, doors, and barriers. The requirements were described in licensee procedures FNP-0-AP-36, Fire Surveillance and Inspection; FNP-0-AP-38, Use of Open Flame; FNP-0-AP-39, Fire Patrols and Watches; and the associated Fire Zone Data sheets.

C Unit 1 and 2 EDG Building, Switchgear Room Train A, Zone 56A
 C Unit 1 and 2 EDG Building, Diesel Generator 2C, Zone 57
 C Unit 1 and 2 EDG Building, Diesel Generator 1B, Zone 58
 C Unit 1 and 2 EDG Building, Diesel Generator 2B, Zone 59
 C Unit 1 and 2 EDG Building, Diesel Generator 1C, Zone 60
 C Unit 1 and 2 EDG Building, Diesel Generator 1-2A, Zone 61
 C Unit 1 and 2 EDG Building, Switchgear Room Train B, Zone 56C

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection (ISI) Activities

a. Inspection Scope

Piping Systems ISI. The inspectors reviewed the implementation of the licensee's ISI program for monitoring degradation of the reactor coolant system boundary and the risk significant piping system boundaries for Unit 1. The inspectors selected a sample of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI required examinations and a sample of risk-informed ISI Program examinations. The inspectors conducted an on-site review of the following nondestructive examination (NDE) activities to evaluate compliance with Technical Specifications (TS), ASME Section XI and ASME Section V requirements - 1989 Edition, and to verify that indications and defects were appropriately evaluated and dispositioned in accordance with the requirements of ASME Section XI, IWB-3000 acceptance standards.

Ultrasonic Testing (UT):

- 32"-ALA2-4300-14-RI, Main Steam to Penetration
- 555"-Elliptical Head to Upper Shell, Steam Generator C

The inspectors reviewed the following examination records in addition to the records for the above observed examinations:

UT:

- 12"-ALA1-4301-6-RI, Pipe to Elbow
- 10"-ALA2-4516-28-RI, Elbow to Pipe
- 3"-ALA2-4540-32-RI, Valve to Pipe

Liquid Penetrant (PT):

- 2"-ALA1-4310-2-RI, Pipe to Elbow
- 2"-ALA1-4307-5-RI, Elbow to Pipe

The inspectors also observed two visual and two UT examinations of the containment liner along excavated portions of the containment moisture barrier performed in accordance with ASME Section XI, IWE, 1992 Edition. This examination was performed in response to previously discovered indications of moisture barrier degradation observed by an NRC inspector and recorded in the licensee's Corrective Action Program.

Qualification and certification records for examiners, inspection equipment, and consumables along with the applicable NDE procedures for the above ISI examination activities were reviewed and compared to requirements stated in ASME Section V and Section XI.

The inspectors performed a review of piping system related problems that were identified by the licensee and entered into the corrective action program. The inspectors reviewed these corrective action documents to confirm that the licensee had appropriately described the scope of the problems and had implemented effective corrective actions.

Boric Acid Corrosion Control (BACC) ISI. The inspectors reviewed the licensee's Boric Acid Corrosion Control Program (BACCP) to ensure compliance with commitments made in response to NRC Generic Letter 88-05, Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary, and Bulletin 2002-01, Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity. The inspectors conducted an on-site record review and an independent walk-down of the reactor building, which was not normally accessible during at-power operations, to evaluate compliance with licensee BACCP requirements and 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, requirements. In particular, the inspectors verified that licensee visual examinations focused on locations where boric acid leaks can cause degradation of safety significant components and that degraded or non-conforming conditions were properly identified in the licensee's corrective action system.

The inspectors reviewed the licensee's program implementation procedures and a sample of plant issue reports (corrective action documents) to ensure that leaks were being identified and addressed at an appropriate threshold. A sample review of corrosion assessments was also completed for boric acid deposits found on reactor coolant system piping and other ASME Code Class components to verify that the minimum design code required section thickness had been maintained for any affected component(s).

Steam Generator (SG) Tube ISI. The inspectors reviewed activities, plans, pre-outage degradation assessment and procedures for the inspection and evaluation of the steam generator Inconel Alloy 690TT tubing for Unit 1 SGs A, B, and C, to determine if the activities were being conducted in accordance with Technical Specifications and applicable industry standards. Data gathering, analysis, and evaluation activities were reviewed. The inspectors reviewed data results for tubes at SG B - R45C59; SG A - R17C04, R15C10, and R26C10; and SG C - R11C82, R12C82, R10C93, R04C51,

R03C56, and R13C81 to verify the adequacy of the licensee's primary, secondary, and resolution analyses. The inspectors observed the licensee perform 100% of the video/visual inspection for the secondary side on the top of tubesheet area of the steam generators to determine if foreign materials or loose parts were present and the licensee was conducting appropriate evaluations. The inspectors also reviewed data operators and analysts' certifications and qualifications, including medical exams.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed portions of the licensed operator training and testing program to verify implementation of procedures FNP-0-AP-45, Farley Nuclear Plant Training Program, FNP-0-TCP-17.6, Simulator Training Evaluation Documentation, and FNP-0-TCP-17.3, Licensed Operator Continuing Training Program. The inspectors observed scenarios conducted in the licensee's simulator for a steam generator tube leak, failed instrumentation, and load rejection. The inspectors observed high risk operator actions, overall performance, self-critiques, training feedback, and management oversight to verify operator performance was evaluated against the performance standards of the licensee's scenario. In addition, the inspectors observed implementation of the applicable emergency operating procedures listed in the attachment to verify that licensee expectations in procedures FNP-0-AP-16 and FNP-0-TCP-17.6 were met. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the following two issues to verify implementation of licensee procedures FNP-0-87, Maintenance Rule (MR) Scoping Manual; NMP-ES-021, Structural Monitoring Program for the Maintenance Rule; and FNP-0-89, FNP Maintenance Rule Site Implementation Manual; and compliance with 10CFR50.65. The inspectors assessed the licensee's evaluation of appropriate work practices, common cause failures, functional failures, maintenance preventable functional failures, repetitive failures, availability and reliability monitoring, trending and condition monitoring, and system specialist involvement. The inspectors also interviewed maintenance personnel, system specialists, the MR coordinator, and operations personnel to assess their knowledge of the program.

C CR 2006104043, 1C Component Cooling Water (CCW) Pump Did Not Start During Safety Injection (SI)/Loss of offsite power (LOSP) Test

C CR 2006104286, Maintenance preventable functional failure (MPFF) of 1C Service Air Compressor

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors assessed the licensee's planning and control for the following five planned activities to verify the requirements in licensee procedures FNP-0-ACP-52.3, Guidelines for Scheduling of On-Line Maintenance; NMP-GM-006, Work Management; and FNP-0-AP-16, Conduct of Operations - Operations Group; and the MR risk assessment guidance in 10CFR50.65a(4) were met.

C CR 2006103167, Outage Risk-Entered Orange Prematurely

C CR 2006102858, Instrument Air Compressor Problems

C CR 2006101909, Significant Axial Flux Oscillations During Derate

C CR 2006103262, 1B EDG Air Receiver Blowdown During Orange Shutdown Safety Assessment

C CR 2006104091, Damage to Unit 1 Fuel Transfer System

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following five operability evaluations to verify they met the requirements of licensee procedures FNP-0-AP-16, Conduct of Operations and FNP-0-ACP-9.2, Operability Determination for Technical Adequacy, Consideration of Degraded Conditions, and Identification of Compensatory Measures. The inspectors reviewed the evaluations against the design bases, as stated in the UFSAR and Functional System Descriptions (FSDs) to verify system operability was not affected.

C CR 2006103043, Unit 2 Main Steam Isolation Valves (MSIVs)

C CR 2006104130, OD 6-04, 2B EDG minor leakage Service Water Piping

C CR 2006104389, OD 6-05, 1-2A EDG service water leakage at Expansion joint

C CR 2006104942, Turbine Driven Auxiliary Feedwater (TDAFW) Pump Check Valve Flow Verification test failure

C CR 2006105386, OD 6-06, 2A MDAFW Pump miniflow line vent piping leak

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed the following plant modification to verify the implementation of procedure FNP-0-AP-8, Design Modification Control. This included verification that the design bases, licensing bases, and performance capability or risk significant systems, structures, and components would not be degraded through the modifications and the modifications would not place the plant in an unsafe condition. The inspectors also discussed the modifications with engineering and operations personnel, and reviewed the related procedures and drawings.

C DCP 03-1-9976, Unit 1 Containment Scaffolding Storage Modification

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors reviewed the criteria contained in licensee procedures FNP-0-PMT-0.0, Post Maintenance Test Program, to verify post-maintenance test procedures and test activities for the following five systems/components were adequate to verify system operability and functional capability.

CWO 2061229101, VT-2 check of SW Leak

CFNP-1-STP-45.7, MSIV and Bypass Valves Cold Shutdown Inservice Test

CFNP-0-ETP-3643, Verification of Rod Control System Operability

CFNP-2-STP-22.23, TDAFW Pump Trip and Throttle Valve Mechanism and Indicator Operability Test

CFNP-0-STP-80.1, Diesel Generator 1-2A Operability Test .

b. Findings

No findings of significance were identified

1R20 Refueling and Other Outage Activities

a. Inspection Scope

Refueling Activities. The inspectors reviewed the following activities related to the Unit 1 refueling outage for conformance to licensee procedure FNP-0-UOP-4.0, General Outage Operations Guideline, and FNP-1-UOP-4.1, Controlling Procedure for Refueling. Surveillance tests were reviewed to verify results were within the TS required specification. Shutdown risk, management oversight, procedural compliance, and operator awareness were evaluated for each of the following activities. Documents reviewed are listed in the attachment.

- C Outage Risk Assessment
- C Cooldown
- C Core offload and reload
- C Reactor coolant instrumentation
- C Electrical system alignments and bus outages
- C Reactor vessel disassembly and assembly activities
- C Outage-related surveillance tests
- C Containment Closure
- C Low Power Physics Testing and Startup Activities
- C Clearance Activities
- C Decay Heat Removal and Spent Fuel Pool Cooling

b. Findings

.1 Failure to Follow Established Procedures Regarding Debris in Containment

Introduction: A Green non-cited violation (NCV) for failure to follow procedural guidance associated with removal of debris in containment was identified by the NRC.

Description: On May 20, 2006, the licensee implemented procedures FNP-1-STP-34.1, Containment Inspection (Maintenance) and FNP-1- STP-34.0, Containment Inspection (General). The Containment Inspection (Maintenance) procedure is maintained open until all work is completed to track work items as they enter and exit containment. The Containment Inspection (General) procedure was performed by the licensee as a general walkdown to verify that containment was acceptable. The licensee completed the Containment Inspection (General) procedure and documented it as satisfactorily finished. The acceptance criteria is to ensure that there is "No loose debris (rags, trash, clothing, etc.) present in the containment which could be transported to the containment sump and cause restricted pump suction during LOCA conditions."

On May 21, 2006, after Unit 1 plant entry into Mode 4, the resident inspectors performed a containment closeout tour to determine the status of housekeeping and equipment storage in containment. In general, the inspectors found that the containment was clean and free of items of a substantial size that may impact the performance of the containment sumps. However, the inspectors identified an appreciable quantity of smaller debris consisting of wires, foam insulation, a spray bottle, mopheads, and a plastic garbage bag that were not removed. A majority of the articles identified by the inspectors were located on the 105' level and were apparently left behind from untracked work occurring on May 20, 2006. These items would have had access to the containment sump screens during loss of coolant accident (LOCA) conditions; however, could only have partially affected one of the containment sump screens while the remaining two would have been fully functional.

Based on the amount, characterization, and location of the debris, the inspectors concluded that in the aggregate, the licensee failed to follow adequate procedural guidance to ensure the containment environment was acceptable for power operations. The specific corrective action document initiated by the licensee associated with the inspector identified issues/discrepancies is CR 2006104914.

Analysis: The performance deficiency associated with this issue is the failure to meet the acceptance criteria of FNP-1- STP-34.0, Containment Inspection (General). The procedure requires the containment general area to be free of foreign objects unless they are identified on a tracking log sheet in procedure FNP-1-STP-34.1. The items found by the inspectors were present at the time of FNP-1- STP-34.0 completion and inadequate measures were taken to ensure their removal. The inspectors referenced Inspection Manual Chapter (IMC) 0612 and determined the finding is more than minor because it could be reasonably viewed as a precursor to a significant event involving debris accumulation on the containment sump screens and a subsequent impairment to suction flow for Emergency Core Cooling System (ECCS) pumps. Although the amount of debris identified would not have a significant impact on the operability of all three containment sump screens, the continued accumulation of debris could impact long-term post accident sump functionality. The inspectors further referenced IMC 0609 for the SDP review and determined the finding was of very low safety significance. Although it impacted the Mitigating System Cornerstone, it did not result in a loss of function per Part 9900, Technical Guidance, "Operability Determination Process for Operability and Functional Assessment", did not represent an actual loss of safety function, and was not potentially risk significant due to possible external events. No specific cross-cutting areas were identified.

Enforcement: Technical Specification 5.4, Procedures, requires that written procedures be implemented for those systems referenced in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978, which would include the Emergency Core Cooling System. Contrary to the above, on May 20, 2006 the licensee performed FNP-1-STP-34.0, Containment Inspection (General) and identified satisfactory completion, even though the acceptance criteria was not met regarding debris in containment. The debris was not tracked by any mechanism and remained in the general containment areas until identified by the resident inspectors on May 21, 2006. This resulted in items being left behind that could have had an adverse impact on post-accident containment sump recirculation flow. Because this finding is of very low safety significance and because it was entered into the licensee's corrective action program (CR 2006104914), this violation is being treated as a NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000348/200600301, Failure to Follow Established Procedures Regarding Debris in Containment.

.2 Failure to Control Contractors Results in Fuel Transfer System Damage

Introduction: A Green non-cited violation (NCV) was identified for failure to control contractors during the refueling outage that resulted in damage to the fuel transfer system. This was a self-revealing violation when a pillar block weld broke resulting in damage to the transfer cart, rails, basket, and dummy fuel assembly.

Description: During the Unit 1 refueling outage, contractor support personnel were asked to respond to a slack upender cable issue in the spent fuel pool area during core offload. Core offload occurred during April 15-17, 2006. Using a digital control box, vendor support personnel made several adjustments to the transfer system cable travel length. The impact of these adjustments was not understood. These adjustments caused the pivot points of the upender and basket to be misaligned such that one

contacted the other when taken to the vertical position. Because of the adjustments, the upender and transfer carts alignment marks were misaligned by several inches. Over time stresses were put on the welds until one failed resulting in the damage to the system. The failure occurred during checks of the system with a dummy fuel assembly. The dummy assembly was damaged. The Unit 2 dummy assembly was used to check the system out following repairs.

Analysis: The inspectors referenced Inspection Manual Chapter (IMC) 0612 and determined the finding is more than minor because it could be reasonably viewed as a precursor to a significant event involving damage to a fuel assembly. Although the damage occurred to a dummy fuel assembly the stresses applied to the fuel transfer system occurred during core offload and it was fortuitous that the failure happened when a dummy assembly was in the basket. The inspectors reviewed IMC 0609 for the SDP review and determined the finding to be of very low safety significance. Although it impacted the Barrier Integrity Cornerstone, there was no damage to a fuel assembly.

Enforcement: 10 CFR 50, Appendix B, Criterion VII, Control of Purchased Material, Equipment, and Services, requires that the effectiveness of the control of contractors shall be assessed at intervals consistent with the importance, complexity, and quantity of the product or services. Contrary to the above, Unit 1 contractor support personnel for refueling activities during April 2006, were not adequately assessed to understand the impact of adjustments the contractor personnel made to the transfer system cable travel during core offload to prevent damage to the fuel transfer system. Because this finding is of very low safety significance and because it was entered into the licensee's corrective action program (CR 2006104091), this violation is being treated as a NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000348/200600302, Failure to Control Contractors Results in Fuel Transfer System Damage.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed surveillance test procedures and either witnessed the test or reviewed test records for the following eight surveillance tests to determine if the tests adequately demonstrated equipment operability and met the TS requirements. The inspectors reviewed the activities to assess for preconditioning of equipment, procedure adherence, and valve alignment following completion of the surveillance. The inspectors reviewed licensee procedures FNP-0-AP-24, Test Control; FNP-0-M-050, Master List of Surveillance Requirements; and FNP-0-AP-16, Conduct of Operations; and attended selected briefings to determine if procedure requirements were met.

Surveillance Tests

CFNP-2-SOP-17.0, Appendix 4, MSIV Functional Test

CFNP-1-STP-11.15, Residual Heat Removal (RHR) Heat Exchange Discharge Valve Mechanical Stop Verification

CFNP-1-STP-40.0, SI with LOSP Test

CFNP-1-STP-22.13, TDAFW Pump Check Valve Flow Verification

In-Service Tests (ISTs)

C FNP-1-STP-45.7, MSIV and Bypass Valves Cold Shutdown Inservice Test

Reactor Coolant System (RCS) Leak Detection

C FNP-1-STP-9.0, RCS Leakage

Containment Isolation Valves

C FNP-2-STP-627, Local Leak Rate Testing of Containment Penetrations, Pen 64A

C FNP-2-STP-627, Local Leak Rate Testing of Containment Penetrations, Pen 93

b. Findings

No findings of significance were identified

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the following temporary modification (TM) and associated 10CFR50.59 screening criteria against the system design bases information and documentation and the licensee's temporary modifications procedure FNP-0-AP-8, Design Modification Control. The inspectors reviewed implementation, configuration control, post-installation test activities, drawing and procedure updates, and operator awareness for this TM.

C TM 10613319102, Unit 1 Upender Car Traveler Seismic Clips

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors evaluated one emergency plan drill on June 28, 2006, to verify the licensee was properly classifying the event, making required notifications, making protective action recommendations, and conducting self-assessments. The inspectors used procedure FNP-0-EIP-15.0, Emergency Drills, as the inspection criteria and observed the drill on June 28 in the Technical Support Center (TSC). The inspectors reviewed FNP-0-EIP-9.0, Emergency Classification and Actions, and other supporting procedures to validate the classification of the event made by the licensee. The inspectors subsequently observed and reviewed the notifications made, communications between emergency response team members, team work of licensee personnel, licensee identification of weaknesses and deficiencies, corrective action documentation, and overall performance.

- The June 28 drill consisted of hurricane force winds and partial loss of offsite power

b. Findings

No findings of significance were identified.

2. **RADIATION SAFETY**

Cornerstones: Occupational Radiation Safety and Public Radiation Safety

2OS1 Access Control To Radiologically Significant Areas (21 Samples)

a. Inspection Scope

Access Controls Licensee activities for controlling and monitoring worker access to radiologically significant areas and tasks were evaluated. The inspectors evaluated changes to and adequacy of procedural guidance; directly observed implementation of established administrative and physical radiological controls; appraised radiation worker and health physics technician (HPT) knowledge of and proficiency in implementing radiation protection activities; and assessed occupational exposures to radiation and radioactive material.

The inspectors directly observed controls established for workers and HPT staff in airborne radioactivity area, radiation area, high radiation area (HRA), locked-high radiation area (LHRA), and very high radiation area (VHRA) locations. Controls and their implementation for HRA keys and for storage of irradiated material within U1 and U2 spent fuel pool (SFP) areas were reviewed and discussed in detail. The inspectors reviewed and evaluated U1 refueling outage tasks including under vessel bare metal inspection activities; reactor vessel head disassembly; snubber inspection and maintenance; fuel off-load; valve maintenance and replacement; reactor coolant pump maintenance; steam generator primary and secondary side maintenance; radioactive waste (radwaste) handling and storage; and transportation activities. The inspectors attended pre-job briefings and reviewed radiation work permit (RWP) details to assess communication of radiological control requirements to workers. Occupational workers' adherence to selected RWPs and HPT proficiency in providing job coverage were evaluated through direct observations and interviews with licensee staff. Electronic dosimeter (ED) alarm set points and worker stay times were evaluated against area radiation survey results and actual dose rates encountered and doses received. Worker exposure as measured by ED and by licensee evaluations of potential skin doses resulting from discrete radioactive particle or dispersed skin contamination events during the 1R20 activities were reviewed and assessed independently. For HRA tasks involving potentially significant dose rate gradients, e.g., steam generator maintenance activities, the inspectors evaluated the potential for use of dosimeter multi-badging to monitor worker exposure.

Postings for access to radiologically controlled areas (RCAs) and physical controls for the U1 reactor containment and for U1 and U2 reactor auxiliary building (RAB) locations designated as LHRAs and VHRAs were evaluated during facility tours. The inspectors independently measured radiation dose rates or directly observed conduct of licensee

radiation surveys and results for U1 containment equipment and work locations, U2 drumming/storage room, outside radioactive material storage areas, and selected U1 and U2 RAB locations. All results were compared to current licensee surveys and assessed against established postings and radiological controls.

Licensee controls for airborne radioactivity areas with the potential for individual worker internal exposures of greater than 30 millirem (mrem) Committed Effective Dose Equivalent were evaluated. For selected RWPs identifying potential airborne areas associated with 1R20 activities, e.g., under vessel maintenance, valve maintenance, U1 seal table equipment maintenance, and reactor vessel stud cleaning activities, the inspectors evaluated the implementation and effectiveness of administrative and physical controls including air sampling, barrier integrity, engineering controls, and postings. Licensee identification and assessment of potential radionuclide intakes by workers between April 1, 2005 through April 20, 2006, were reviewed and evaluated.

Radiation protection activities were evaluated against Updated Final Safety Analysis Report (UFSAR), Technical Specification (TS), and 10 Code of Federal Regulations (CFR) Parts 19 and 20 requirements. Specific assessment criteria included UFSAR Section 11, Radioactive Waste Management, and Section 12, Radiation Protection; 10 CFR 19.12; 10 CFR 20, Subpart B, Subpart C, Subpart F, Subpart G, Subpart H, and Subpart J; TS Sections 5.4, Procedures, and 5.7, High Radiation Area Controls; and approved procedures. Detailed procedural guidance and records reviewed for this inspection area are listed in Sections 2OS1, 2OS2, 2PS2, 4OA1, and 4OA5 of the report Attachment.

Problem Identification and Resolution Licensee Corrective Action Program (CAP) documents associated with access control to radiologically significant areas were reviewed and assessed. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with Nuclear Management Procedure (NMP)-GM-002, Corrective Action Program, Version (Ver.) 4. Licensee Condition Report (CR) documents and audits associated with access controls, personnel monitoring instrumentation, and personnel contamination events were reviewed. Licensee CAP documents reviewed and evaluated in detail during inspection of this program area are identified in Section 2OS1 of the report Attachment.

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Controls (15 Samples)

a. Inspection Scope

As Low As Reasonably Achievable (ALARA) The inspectors reviewed ALARA program guidance and its implementation for ongoing refueling outage job tasks. The inspectors evaluated the accuracy of ALARA work planning and dose budgeting, observed implementation of ALARA initiatives and radiation controls for selected jobs in-progress, assessed the effectiveness of source-term reduction efforts, and reviewed historical dose information.

ALARA planning documents and procedural guidance were reviewed and projected dose estimates were compared to actual dose expenditures for the following high dose jobs: steam generator (S/G) maintenance, reactor head assembly/disassembly, scaffolding construction, and work on valves LCV-459/460 near the regenerative heat exchanger. Differences between budgeted dose and actual exposure received were discussed with cognizant ALARA staff. Changes to dose budgets relative to changes in radiation source term and/or job scope were also discussed. The inspectors attended pre-job briefings and evaluated the communication of ALARA goals, RWP requirements, and industry lessons-learned to job crew personnel.

The inspectors made direct field or closed-circuit-video observations of outage job tasks involving S/G maintenance and reactor head disassembly. For the selected tasks, the inspectors evaluated radiation worker (radworker) and HPT job performance; surveys of the work areas; appropriateness of RWP requirements; and adequacy of implemented engineering controls.

Implementation and effectiveness of selected program initiatives with respect to source-term reduction were evaluated. Chemistry program ALARA initiatives, including crud burst/cleanup activities, and their effect on U1 containment and auxiliary building dose rate trends were reviewed. The effectiveness of temporary shielding installed near the U1 regenerative heat exchanger was assessed through review of pre-shielding versus post-shielding dose rate data and expected person-rem saved.

Plant exposure history for calendar year (CY) 2002 through CY 2004 (three year rolling average) was reviewed. The inspectors also reviewed selected monthly dose reports and daily RWP dose tracking worksheets. In addition, the inspectors examined dose records of selected declared pregnant workers to evaluate assignment of gestation dose.

ALARA program activities and their implementation were reviewed against 10 CFR Part 20, and approved licensee procedures. In addition, licensee performance was evaluated against guidance contained in Regulatory Guide (RG) 8.8, Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations will be As Low As Reasonably Achievable and RG 8.13, Instruction Concerning Prenatal Radiation Exposure. Procedures and records reviewed within this inspection area are listed in Sections 2OS2 of the report Attachment.

Problem Identification and Resolution The inspectors reviewed selected CRs and a licensee self-assessment in the area of exposure control. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with NMP-GM-002, Corrective Action Program Ver. 4. Specific CAP documents reviewed in detail for this inspection area are identified in Section 2OS2 of the report Attachment.

b. Findings

No findings of significance were identified.

2PS2 Radioactive Material Processing and Transportation (6 Samples)

a. Inspection Scope

Waste Processing and Characterization Selected liquid and solid radwaste processing system components were inspected for material condition and for configuration compliance with the UFSAR and Process Control Program (PCP). Inspected equipment included the recycle hold-up tanks; supplemental demineralizer system; resin transfer piping; resin and filter packaging components; and abandoned waste evaporator equipment. The inspectors discussed component function, equipment operability, and changes to radwaste storage areas with licensee staff.

The 2004 Annual Radioactive Effluent Release Report and radionuclide characterizations from January 1, 2005 through Year-to-Date 2006 for each major waste stream were reviewed and discussed with radioactive waste (radwaste) staff. For Reactor Coolant System (RCS) filters, SFP filters, and Dry Active Waste (DAW); the inspectors evaluated analyses for hard-to-detect nuclides, reviewed the use of scaling factors, and examined comparison results between gamma emitting radionuclides reported in the licensee waste stream characterizations and the vendor laboratory data. For selected shipments of spent resin and Low Specific Activity (LSA) waste, the methodology used for waste stream mixing and concentration averaging was evaluated. The inspectors also reviewed the licensee's procedural guidance for monitoring changes in waste stream isotopic mixtures.

Radwaste processing activities were reviewed for compliance with 10 CFR Part 50.59 and consistency with the licensee's current PCP and UFSAR, Chapter 11. Waste stream characterization analyses and selected shipping records were reviewed against regulations detailed in 10 CFR Part 20, 10 CFR Part 61, 49 CFR Part 173, and guidance provided in the Branch Technical Position (BTP) on Waste Classification and Waste Form. Reviewed documents are listed in Section 2PS2 of the report Attachment.

Transportation The inspectors directly observed preparation activities for a shipment of contaminated laundry. The inspectors noted package markings and placarding, and interviewed shipping technicians regarding Department of Transportation (DOT) regulations. The inspectors observed dose rate surveys of the shipping packages and compared the results to DOT limits.

Five shipping records were reviewed for consistency with licensee procedures and compliance with NRC and DOT regulations. The inspectors reviewed emergency response information, DOT shipping package classification, radiation survey results, and evaluated whether receiving licensees were authorized to accept the packages. The licensee's procedures for use of Type B shipping casks were compared to recommended vendor protocols and Certificate of Compliance (CoC) requirements. In addition, training records for individuals currently qualified to ship radioactive material were reviewed.

Transportation program implementation was reviewed against regulations detailed in 10 CFR Parts 20 and 71, 49 CFR Parts 172-178; as well as the guidance provided in NUREG-1608. Training activities were assessed against 49 CFR Part 172 Subpart H.

Documents reviewed during the inspection are listed in Section 2PS2 of the report Attachment.

Problem Identification and Resolution. The inspectors reviewed and discussed with HP supervision selected CRs and audits associated with transportation and radioactive waste processing program activities. The inspectors assessed the licensee's ability to characterize, prioritize, and resolve the identified issues in accordance with licensee procedure NMP-GM-002, Corrective Action Program, Ver. 4.0.

b. Findings

No findings of significance were identified.

4. **OTHER ACTIVITIES**

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors sampled licensee submittals for the PIs listed below to verify the accuracy of the data reported. The PI definitions and the guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Rev. 2, and licensee procedure FNP-0-AP-54, Preparation and Review of NRC Performance Indicator Data, were used to verify procedure and reporting requirements were met.

Mitigating Systems Cornerstone

- Unit 1 and Unit 2 Safety System Functional Failures

The inspectors reviewed samples of raw PI data, Licensee Event Reports (LERs), and Monthly Operating Reports for the period covering April 2004 through March 2006. The data reviewed from the LERs and Monthly Operating Reports was compared to graphical representations from the most recent PI report. The inspectors also examined a sampling of operations logs and procedures to verify the PI data was appropriately captured for inclusion into the PI report as well as insuring that the individual PIs were calculated correctly.

Barrier Integrity Cornerstone

- Unit 1 and Unit 2 Reactor Coolant System Activity
- Unit 1 and Unit 2 Reactor Coolant System Leakage

The inspectors reviewed raw PI data for the period from October 2004 through March 2006 consisting of daily chemistry analysis and daily leak rate logs. The inspectors reviewed the recent PI report to verify the data was accurately reflected in the report.

Occupational Radiation Safety Cornerstone

- Occupational Exposure Control Effectiveness

The inspectors reviewed PI data collected from October 1, through March 30, 2006. The inspectors assessed CAP records to determine if HRA, VHRA, or unplanned exposures, which resulted in TS or 10 CFR 20 non-conformances, had occurred during the review period. In addition, the inspectors reviewed selected personnel contamination event data, internal dose assessment results, and ED alarms for cumulative doses and/or dose rates exceeding established setpoints. Documents reviewed are listed in the Attachment.

Public Radiation Safety Cornerstone

- Radiological Control Effluent Release Occurrences

The inspectors reviewed the PI results for the period of July 1, 2005 through March 31, 2006. For the assessment period, the inspectors reviewed dose totals to the public, out-of-service (OOS) effluent radiation monitors and selected compensatory sampling data, and selected CRs related to Radiological Effluent Technical Specific/ Offsite Dose Calculation Manual issues. The inspectors also reviewed licensee procedural guidance for collecting and documenting PI data. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 Daily Review

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," and to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. This review was accomplished by reviewing daily hard copy summaries of CRs and by reviewing the licensee's electronic CR database.

.2 Annual Sample Review

Work-Around Review

a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," the inspectors performed a detailed review of the work-around lists for Unit 1 and 2 shared and Unit 2 that were in effect on May 7, 2006. The inspectors reviewed the proposed corrective action and schedule for each item on the work-around list. The inspectors reviewed the compensatory action and cumulative effects on plant operation.

The inspectors verified each item was being dispositioned in accordance with plant procedure ACP-17, Operator Work-Around.

b. Findings and Observations

The inspectors found that operator work-arounds were being identified at an appropriate threshold. Items were entered into the corrective action program or actions taken were appropriate.

Review of High Head Safety Injection pump replacement issue

a. Inspection Scope

As a result of NRC awareness that the replacement High Head Safety Injection pump casing and discharge head had not been stored or controlled in accordance with an approved 10CFR50 Appendix B Quality Assurance program, inspectors verified compliance of the replacement activity with applicable portions of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI.

b. Findings and Observations

Introduction: A Green NCV of 10 CFR 50.55a(a)(2) was identified by the inspectors for the licensee failing to comply with the ASME Boiler and Pressure Vessel Code, Section XI, for Class 2 Components. IWA-7520 of the 1989 edition of Section XI requires that as part of replacement activities, a completed Owner's Report for Repairs or Replacements, Form NIS-2, be maintained; and subsequently submitted in accordance with the requirements of IWA-6000.

Description: During the scheduled Unit 2 Fall 2005 outage, the licensee replaced Charging/High Head Safety Injection Pump 2B casing and discharge head with replacements that had been previously used in a test facility without an approved quality assurance program. The replacement pump casing and discharge head, originally designated and "N Stamped" per ASME Section III for Code Class 2 service, had not been continuously controlled as a safety-related ASME Code Class 2 part since 1984 in accordance with the requirements of an approved quality assurance program. Therefore, the level of quality had to be re-established in order for the pump to be used as an ASME Section XI replacement. Methods on how to re-establish quality levels were not addressed in the ASME Code.

After discussions with the NRC staff, (refer to [SNC] letter to the NRC dated December 2, 2005), SNC considered methods to address the question related to control of pump pressure retaining parts which would allow returning the 2B Charging / High Head Safety Injection pump to service. After consideration of submitting a relief request, the use of Generic Letter 89-09, or to disposition the issue within the SNC corrective action program, SNC determined that the appropriate process to disposition this issue and return the 2B charging pump to service was for SNC to document an evaluation for the pump casing and discharge head acceptability within their corrective action program. Subsequently the pump was replaced using a design change under Job Number E21-2051013013.

As identified in SNC's letter to the NRC dated March 1, 2006, that transmitted Farley Nuclear Plant Unit 2 Inservice Inspection Summary Report, SNC's evaluation consisted of a code reconciliation that addressed the use of different codes, evaluated any differences between design specification requirements and design, and evaluated the potential effects of the uncontrolled storage of parts. The evaluation included a conclusion that the parts retained an acceptable level of quality and safety. SNC considered the Code requirements of the casing and discharge head to be confirmed.

Also identified in the March 1, 2006 letter transmitting the Inservice Inspection Summary was information that due to the Authorized Nuclear Inservice Inspector's (ANII) interpretation of Code requirements, the ANII decided not to sign the NIS-2 form for the Charging / High Head Safety Injection Pump replacement. It was SNC's position that, based on an ASME Section XI response to SNC's request for a code interpretation, the replacement parts are fully qualified to be used as permanent ASME Section XI Class 2 replacement parts. The interpretation requested a response to the question "Is it a requirement of IWA-2110 (h) [1989 Edition of ASME Section XI] that the ANII approve owner's corrective action performed under the owners Appendix B program?" The reply from ASME was "No".

The inspectors performed an in-house review of available information provided by the licensee on the replacement pump. The performance of non-destructive inspection, visual inspection, and reconciliation evaluation details were reviewed by the inspectors, and satisfactory inservice testing of the replacement pump was observed. The inspectors reviewed the following documents associated with the Charging / High Head Safety Injection Pump 2B replacement and did not identify any immediate safety concerns with the use of the pump, and that except for the ANII's signature, those requirements of ASME Section XI, 1989 Edition affecting the structural integrity of the replacement pump have been essentially met.

- Doc. No. U-418256, ANSI/ASME Code Reconciliation Document
- DOEJ-SS-2052666001-001, Documentation of Engineering Judgment 001 Code Reconciliation
- DOEJ-SM-2052666001-002, Documentation of Engineering Judgment 002 Storage Issue for Pump Casing
- DOEJ-SS-2052666001-003, Documentation of Engineering Judgment 003 Design Deficiencies Evaluation
- RER 2052666001, Design Verification Summary
- NDR-05-003 Attach. 5, Nonconformance Disposition Report
- SNC's response to inspector's questions transmitted in e-mail dated 2/21/06.

However, the inspectors did not consider that the code case interpretation provided by ASME resolved the lack of signature by the ANII. ASME Section XI, Article IWA-7520 of ASME Section XI, 1989 Edition also requires a completed Owner's Report for Repairs or Replacements, Form NIS-2, be maintained by the owner, and article IWA-6000 requires that the NIS-2 form be submitted to regulatory authorities with the Inservice Inspection Summary Report within 90 days of the completion of the Inservice inspection conducted during each refueling outage. As identified in SNC's letter to the NRC dated March 1, 2006, that transmitted FNP Unit 2 Inservice Inspection Summary Report, the NIS-2 form was not completed. The NIS-2 form was not signed by the ANII, and SNC did not fully

explain why. Review of the documentation by the inspectors suggested that the ANII remains concerned with the replacement part being out of control of an Appendix B program for many years. The NRC holds the signature of the ANII in high regard and relies on the ANII approval of such actions to assure Code compliance. An incomplete NIS-2 form, indicates that all requirements of the Code have not been complied with.

Analysis: The performance deficiency was that the licensee did not meet Code by not having the NIS-2 form completed. The finding is more than minor because it affects the Mitigating Systems Cornerstone objective to assure the reliability of systems that respond to events to prevent undesirable consequences and is associated with the design control attribute in that qualification remains questionable because there is a lack of assurance that all code requirements have been met.

The inspectors processed the finding using Appendix A of Inspection Manual Chapter 0609. The finding was evaluated using the Phase 1 screening worksheet and because it represents a qualification deficiency confirmed not to result in a loss of operability, it was determined that the deficiency is of very low risk significance (Green). This finding has been entered into the licensee's Corrective Action Program as CR 2006104737.

Enforcement: 10CFR50.55a(a)(2) requires Nuclear Class 1, 2 and 3 components meet the requirements of the Section XI of the ASME Code. The 1989 Edition of Section XI requires a completed NIS-2 Form signed by an ANII that documents that the owner has performed examinations and taken corrective measures in accordance with all the requirements of ASME Section XI. Contrary to the above, for the Unit 2B Charging/High Head Safety Injection pump replacement, the licensee did not have a completed NIS-2 Form.

Because this finding is of very low safety significance and has been entered into the licensee's corrective action program as CR 2006104737, this violation is being treated as a non-cited violation (NCV) consistent with Section VI.A of the NRC Enforcement manual (NCV 05000364/2006003-03, Failure to Meet Pump Code /Requirements/Details).

.3 Semi-Annual Trend Review

a. Inspection Scope

As required by Inspection Procedure 71152, Identification and Resolution of Problems, the inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more safety significant safety issue. The inspectors' review focused on CRs with corrective action that were not sufficiently comprehensive to reduce the likelihood or prevent recurrence of the condition. The review also considered the results of the daily inspector CAP item screening discussed in Section 4OA2.1, licensee trending efforts, and licensee human performance results. The inspectors reviewed the licensee quarterly trend reports for November 2005 - January 2006, and February - April 2006, daily CRs, selected completed CRs, Maintenance Rule (a)(1) list, equipment health reports, and quality assurance reports to identify issues not recognized by the licensee. The inspectors compared and contrasted their results with the results contained in the licensee's quarterly trend reports. Corrective actions associated with a sample of the issues identified in the licensee's trend report were reviewed for adequacy. The inspectors also evaluated the reports

against the requirements of the licensee's CAP procedures FNP-0-AP-30.0, Corrective Action Reporting and NMP-GM-002-GL05, Corrective Action Program Trend Coding and Analysis Guideline, and the requirements of 10 CFR 50, Appendix B.

b. Findings and Observations

No findings of significance were identified. The inspectors noted that the licensee had identified adverse trends with quality of physical work and events related to 4160V breakers. These were the two most significant issues noted by the inspectors during the semi-annual review period. Quality of physical work is currently being addressed by the Maintenance department with action item due dates of August 2006. The events surrounding 4160V breakers will continue to be evaluated into the next quarter (May 2006, June 2006) and have not been analyzed by the licensee as its trend quarter has not ended. A separate observation was noted by the inspectors. During a review of the last two quarters of the Farley Key Performance Indicators, there has been little increase in the Reactivity Management Index (RMI) with a significant number of reactivity events. The RMI has remained in a Green overall status over the last twelve months in the presence of twenty-two level 3 and 4 reactivity management events. When input to the RMI calculation, the severity level 3 and 4 reactivity issues do not have significant worth. This would require 20-40 incidents over a twelve month period to change RMI color and require additional licensee attention. The inspectors identified this to the licensee and the licensee is evaluating a potential change to the RMI calculation (SNC fleet wide) that could improve the threshold for monitoring these events to be more useful in recognizing and addressing potential problem areas. The licensee has addressed this issue in CR 2006105917.

4OA5 Other Activities

.1 Operation of an Independent Spent Fuel Storage Installation (ISFSI)

a. Inspection Scope

Inspectors reviewed selected ISFSI operations records to verify that the licensee had properly identified each fuel assembly in the two latest casks placed on the ISFSI pad. The inspectors also reviewed Technical Specifications to verify that the fuel placed in these casks met the requirements. The inspectors also reviewed ISFSI document control practices to verify that the required records were being retained and duplicate records were being kept at a separate location. The inspectors walked down the ISFSI pads to assess the material condition of the casks, the installation of security equipment, and the performance of the monitoring systems.

b. Findings

No findings of significance were identified.

.2 Independent Spent Fuel Storage Installation (ISFSI) Radiological Controls

a. Inspection Scope

The inspectors reviewed gamma-ray, neutron, and contamination surveys of the ISFSI facility. Inspectors also observed routine gamma-ray surveys and compared the results

to previous surveys and TS limits. The inspectors evaluated implementation of radiological controls, including labeling and posting, and discussed controls with an HP Technician and HP supervisory staff. Environmental monitoring for direct radiation from the ISFSI was reviewed, and inspectors observed placement of thermoluminescent dosimeters.

Radiological control activities for ISFSI areas were evaluated against 10 CFR Part 20, 10 CFR Part 72, and Admentment 2 to the Certificate of Compliance No. 1014 TS details. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

.3 (Closed) NRC Temporary Instruction (TI) 2515/165: Operational Readiness of Offsite Power and Impact on Plant Risk

The inspectors reviewed licensee procedures and controls and interviewed operations and maintenance personnel to verify these documents contained specific attributes delineated in the TI to ensure the operational readiness of offsite power systems in accordance with plant Technical Specifications; the design requirements provided in 10 CFR 50, Appendix A, General Design Criterion 17, "Electric Power Systems;" and the impact of maintenance on plant risk in accordance with 10 CFR 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." Documents reviewed are listed in the Attachment. Appropriate documentation of the results of this inspection was provided to NRC headquarters staff for further analysis, as required by the TI. This completes the Region II inspection TI requirements for the Joseph M. Farley Nuclear Station.

.4 (Closed) Unresolved Item [URI] 50-348, 364/2004-04-02, Non-conservative Acceptance Criteria Used For Service Water Pump Testing

The above URI was opened because the licensee was testing the Component Cooling Water (CCW) heat exchangers just prior to refueling outages after they had been cleaned. Therefore, they were potentially getting incorrect "as-found" performance data on heat exchanger capability.

In August, 2005, the licensee tested the worst case Unit 2 heat exchanger at the end of an operating cycle, prior to cleaning. The inspectors reviewed the data and discussed the data collection methods and results with the licensee. Farley corrective action Condition Report 2004102818 documented the result and the technical justification, RER C051797501. The licensee's conclusion was that the CCW exchangers are fully capable of performing their function under worst case conditions between their scheduled once-per-cycle cleanings. With the attendant changes the licensee had made to their preventive maintenance program regarding cleaning of the river intake structure and ultimate heat sink pond, the inspectors concluded the licensee's response to CR 2004 102818 was acceptable.

4OA6 Meetings, Including Exit

On July 7, 2006, the inspectors presented the inspection results to Mr. Randy Johnson and the other members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

W.L. Barger, Assistant General Manager - Operations
W. R. Bayne, Performance Analysis Supervisor
S. H. Chestnut, Engineering Support Manager
P. Harlos, Health Physics Manager
L. Hogg, Security Manager
J. Horn, Training and Emergency Preparedness Manager
J.R. Johnson, Plant General Manager
T. Livingston, Chemistry Manager
B. L. Moore, Maintenance Manager
W. D. Oldfield, Quality Assurance Supervisor
J. Swartzwelder, Work Control Superintendent
R. J. Vanderbye, Emergency Preparedness Coordinator
R. Wells, Operations Manager
T. L. Youngblood, Assistant General Manager - Plant Support

NRC personnel

S. Shaeffer, Division of Reactor Projects, Branch Chief
D. Simpkins, Division of Reactor Projects, Acting Branch Chief

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000348/2006-003-01	NCV	Failure to Follow Procedures for Containment Closeout (Section 1R20)
05000348/2006-003-02	NCV	Failure to Control Contractors Results in Fuel Transfer System Damage (Section 1R20)
05000364/2006-003-03	NCV	Failure to Meet Pump Code Requirements/Details (Section 4OA2.2)

Closed

05000348, 364/2515/165	TI	Operational Readiness of Offsite Power and Impact on Plant Risk (Section 4OA5.3)
05000348, 364/2004-04-02	URI	Non-conservative Acceptance Criteria Used For Service Water Pump Testing (Section 4OA5.4)

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

UFSAR Section 5.5.7
 Technical Specification Section 3.5.2
 Student Lesson Plan OPS-52102B-40302C Emergency Core Cooling
 RHR Function System Description A-181002

Section 1R08: Inservice Inspection Activities

NMP-ES-024-502, PDI Generic Procedure for the Ultrasonic Examination of Ferritic Pipe Welds (Appendix VIII), Ver 1.0
 NMP-ES-024-501, PDI Generic Procedure for the Ultrasonic Examination of Austenitic Pipe Welds (Appendix VIII), Ver 1.0
 FNP-0-NDE-100.34, Nondestructive Examination Procedure
 Boric Acid Corrosion Control Program Quarterly Report 4th Quarter - October 1, 2005 - December 31, 2005
 NMP-ES-019, Boric Acid Corrosion Control Program, Ver 1.0
 NMP-ES-019-GL01, Boric Acid Corrosion Control Implementation Guideline, Ver 1.0
 FNP-0-M-101, Boric Acid Corrosion Control Program, Ver 10
 FNP-0-EPT-4496, Corrosion Assessment, Ver 2.0
 Westinghouse MRS-SSP-1169-ALA/APR, Rev. 2, Farley Units 1 & 2 In-Service Steam Generator Eddy Current Analysis Guidelines
 Westinghouse MRS-SSP-1052-ALA/APR, Rev. 6, Secondary Side Tubesheet Inspection - Westinghouse Model 54F Sgs
 Westinghouse MRS 2.4.2 GEN-35, Rev. 11, Eddy Current Inspection Of Preservice and Inservice Heat Exchanger Tubing
 MIS-FNP-5-17, Review of Farley 1R19 Steam Generator Secondary Side Loose Parts for Next Cycle of Operation, Dated November 4, 2004
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 Steam Generator History and Operating Assessment
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 Specific Assessment of Potential Degradation Mechanism Developed for the Upcoming Outage
 Data Acquisition and Analysis Personnel Qualification for Level II Data Operators, Level II A and Level III A Analysts
 Farley Unit 1, ALA R20 Steam Generator Inspection Reference Manual
 Westinghouse Reference Letter LTR-SGDA-04-326, Evaluation of Loose Parts for Farley Unit 1 Fall 2004 Outage, Dated October 29, 2004
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Section 1R11: Licensed Operator Requalification

FNP-1-AOP-2.0, Steam Generator Tube Leakage
 FNP-1-AOP-4.0, Loss of Reactor Coolant Flow
 FNP-1-AOP-17.0, Rapid Load Reduction
 FNP-1-AOP-100, Instrumentation Malfunction
 FNP-1-UOP-3.1, Power Operation
 FNP-0-ESP-0.1, Reactor Trip Response
 FNP-0-EIP-9.0, Emergency Classification and Actions

Section 1R20: Refueling and Outage Activities

FNP-0-UOP-4.0, General Outage Operations Guidance
 FNP-0-AP-52, Equipment Status Control and Maintenance Authorization
 FNP-1-UOP-4.1, Refueling Outage Operation
 FNP-0-AP-94, Outage Nuclear Safety
 FNP-1-UOP-4.3, Mid-Loop Operations
 FNP-0-ACP-47.3, Outage Preparation
 FNP-1-STP-35.0, Reactor Coolant System Pressure and Temperature/Pressurizer Temperature Limits Verification
 FNP-1-UOP-2.1, Shutdown of Unit From Minimum Load to Hot Standby
 FNP-1-UOP-2.2, Shutdown of Unit From Hot Standby to Cold Shutdown
 FNP-1-SOP-1.6, Draining th Reactor Coolant System
 FNP-1-SOP-1.3, Reactor Coolant System Filling and Venting-Vacuum Method
 FNP-1-STP-18.4, Ctmt Mid-Loop and/or Refueling Integrity Verification and Ctmt Closure
 FNP-1-IMP-201.45, Refueling Reactor Coolant System Level Calibration Q1B21FT0416
 FNP-1-STP-35.1, Unit Startup Technical Specification Verification
 FNP-0-ETP-3643, Verification of Rod Control System Availability
 FNP-1-STP-101, Zero Power Reactor Physics Testing
 FNP-1-STP-29.6, Calculation of Estimated Critical Condition

Section 2OS1: Access Controls to Radiologically Significant Areas

Procedures, Manuals, and Guidance Documents

Farley Nuclear Plant (FNP) Dosimetry Procedure (DOS)-1, Personnel Monitoring, Version (Ver) 43.0
 FNP-1- FHP - 1.0, Refueling Operations, Ver. 8.0
 FNP-0-ACP- 7.0, Foreign Material Exclusion Program, Ver. 16.0
 FNP -0-RPC -0.1, Key Control Program and Health Physics Guidance for Control of High Radiation Areas, Exclusion Areas (Locked High Radiation Areas) and Very High Radiation Areas, Ver. 9.0
 FNP-1-RPC -0.2, Unit 1 Reactor Vessel Maintenance Sump Entry, Ver. 2.0
 FNP 0-RPC-4, Refueling Survey, Ver. 18.0
 FNP-0-RPC-26, Radiological Surveys and Monitoring, Ver. 32.0
 FNP-0-RCP-26, Temporary Change Notice Form (TCNF), Radiological Surveys and Monitoring, Ver. 32.1
 FNP-0-RPC-29, Contamination Guidelines, Ver. 38.0
 FNP-0-RPC-29.1, Guidelines for Personnel Decon and Response to Personnel Contamination

Events, Ver. 5.0
 FNP-0-RCP-57, Radioactive and Potentially Radioactive Material Handling, Ver. 28
 FNP-0-RPC-114, Operation and Care of Safety and Supply's Model RC 2095, LANCS Model LI-520Y Series All Clear Air-Fed Hood, and Defense Apparel's HSQ-10 Supplied Air Hood Assembly, Ver. 7.0
 FNP-0-RPC-367, Radiological Control Associated with Primary Steam Generator Channelheads, Ver. 36.0

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Unit 1 (U1) and Unit 2 (U2) Spent Fuel Pool (SFP) Trash (Non-Fuel Items Inventory), as of 04/20/2006
 U1 ICA-3, U1 SFP Inventory Map, as of 04/20/2006
 U2 ICA-6, U2 SFP Inventory Map, as of 04/20/2006
 U1 SFP Debris Canister Stack Sequence: Long Term and Short Term Storage Items (Data as of 04/21/2006).
 U2 SFP FSDC Stack Sequence: Long Term and Short Term Storage Items as Loaded for FATF 02-99-021, (Data as of 04/21/2006)
 Radiation Work Permit (RWP) 06-0501, Operations: Routine Inspections, Activities and Training Within Radiation Controlled Areas by Operations Personnel. CAUTION: Do Not use this RWP for Containment (CTMT) Entries, Rev. 0
 RWP 06-0703, Engineering Support (ES): All Work Associated with Fuel Inspections, Fuel Oxide Measurements, Top Nozzle Replacement, etc., in the Unit 1 (U1) or Unit 2 (U2) Spent Fuel Pool (SFP). NOTE: Not for New Fuel Receipt. CAUTION: Do Not Use this RWP for CTMT Entries, Rev. 0
 RWP 06-0705, ES: All Work Associated with SFP Inventory Classification in the U1 or U2 SFP. Caution: Do Not Use this RWP for CTMT Entries, Rev. 0
 RWP 06-1444, Maintenance - All; All Work Associated with Repairs, Inspections, and Observations in the Unit 1 Reactor Vessel Maintenance Sump to Support the 1R20 Outage. No Entry While Incore Thimbles are Withdrawn or While Driving Detectors, Rev. 0
 RWP 06-1453, Maintenance-MM; All Work Associated with Maintenance on Valves Reading 1000 mRem/hr or Greater Contact and not Specifically Covered by Other RWPs in the Auxiliary Building and Unit 1 CTMT to Support the 1R20 Outage, Rev. 0
 RWP 06-1467, Maintenance-MM, FAC, HP, WMS; All Work Associated with Cleanout and Maintenance of the U1 Reactor Cavity Transfer Canal to Support the 1R20 Outage. (To Include Decon of the Upender Sump, Blind Flange Work, and all Repairs). Rev. 0
 RWP 06-1488, Maintenance-MM, WMS, Wyle; All Work Associated with Routine Snubber Work in the Auxiliary Building, the Unit 1 Containment, and the Snubber Trailer/Building to Support the 1R20 Outage, Rev. 0
 RWP 06-1504, Operations-OPS, ES, Westinghouse; All work to Support for Refueling Activities in the U1 Containment and the U1 SFP Room during the 1R20 Outage, Rev. 0
 RWP 06-1707, Maintenance - All: All Work Associated with Visual Bottom Mounted Instrumentation (BMI) Penetration Inspection of the U1 Containment Reactor Vessel Maintenance Sump during the 1R20 Outage. No Entry While Incore Thimbles are Withdrawn or While Driving Detectors, Rev. 0.
 RWP 06-1730, Engineering-ES; Westinghouse, ES, HP; All Work Associated with the Installation and Removal of Nozzle Dam/Nozzle Covers in the Primary Steam Generators to Support the 1R20 Outage, Rev. 0
 RWP 06-1731, Engineering-ES; Westinghouse, ES, HP; All Work Associated with the Primary Steam Generator Eddy Current Testing and Repairs to Support the 1R20 Outage, Rev. 0

Survey Number (No.) 13991, Unit 1 Reactor Cavity (1CB155), Dose Rate Data, 11/11/04

Survey No. 22708, U-1 Auxiliary Building 83 foot elevation (1AB83), Dose Rate and Contamination Data, 03/19/06

Survey No. 23275, 1AB83, Dose Rate and Contamination Data, 04/09/2006

Survey No. 23317, 1AB83, Dose Rate and Contamination Data, 04/10/2006

Survey No. 23360, 1Auxiliary Building RHR Pump Room (1AB83131) Dose Rate and Contamination Data, 04/10/06

Survey No. 23403, U1 Containment Sump (1CB) Dose Rate and Contamination Data, 04/11/2006

Survey No. 23371, HP Derived Air Concentration Report, U1 Reactor Sump Air Sample, 04/11/2006

Survey No. 23457, U1 Containment Transfer Canal (1CB155) Dose Rate Data, 04/12/2006

Health Physics Survey (HPS) Data (Airborne) Associated with Reactor Stud Cleaning Activities: HPS No. 23541, 04/15/2006; No. 23611, 04/15/2006; No. 23701, 04/16-17/2006; No. 23654, 04/16/2006;

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Health Physics Locked High Radiation Area (LHRA) Control Log, Data 04/10-11/2006

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Corrective Action Program (CAP) Documents

Nuclear Management Procedure (NMP) General Management ((GM) - 002, Corrective Action Program, Ver. 4

Farley Nuclear Plant Health Physics Self Assessment, INPO 03-004 Guide (Radiation Protection), 12/06-10/2004

Review of Locked High Radiation Area (LHRA) Administrative Controls, 08/09-12/2005

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CR 2005110573, Containment Entry Made on Auxiliary Building RWP, 10/24/2005

CR 2005110695, Inadvertent Sign-In to Wrong RWP, 10/26/2005

CR 2005105623, Maintenance Worker Direct Alarming Dosimeter Not Operating During RCA Entry, 06/09/2006

CR 2005107891, Loss of Controls Securing Tri-Nuke Equipment Within the U1 Spent Fuel Pool, 08/05/2005

CR 2005111645, Very High Radiation Area Key Lost, 11/15/2005

Section 2OS2: As Low As Reasonably Achievable (ALARA)

Procedures, Manuals, and Guidance Documents

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FNPP-0-RCP-15, Temporary Shielding, Ver. 35.0

FNPP-0-RCP-19, Pre and Post Job ALARA Planning for Work in Radiation Controlled Areas of the Plant, Ver. 19.0

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 Plant ALARA Review Committee meeting minutes, 4/6/06
 Monthly ALARA Report, March 2006
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 RWP 06-1731, Steam Generator Eddy Current Testing, Rev. 0
 RWP 06-1461, Reactor Head Assembly/Disassembly, Rev. 0
 RWP 06-1481, All Work Inside U1 Regenerative Heat Exchanger Fence, Rev. 1
 Survey 23241, U1 Regenerative Heat Exchanger Valves (Pre-Shield), 4/8/06
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 CR 2005111491, Improvement needed in determining the total job scope of scaffold requirements for an outage, 11/11/05
 CR 2005102060, Plant dose is at 161% of budget dose for the first month of the year, 2/18/06
 CR 2004104041, Request an engineering evaluation to consider permanent shielding on U1 regenerative heat exchanger, 10/10/04
 CR 2006101009, Increased dose to replace 1A incore detector due to new equipment issues, 2/3/06

Section: 2PS2 Radioactive Material Processing and TransportationProcedures, Manuals, and Guidance Documents

FNP UFSAR, Chapter 11, Radioactive Waste Management
 Joseph M. Farley Nuclear Plant Annual Radioactive Effluent Release Report for 2004, 04/25/05
 FNP-0—030, Process Control Program, Rev. 15
 FNP-0-RCP-801, Disposable Demineralizer System Operation (Hittman), Ver. 16.0
 FNP-0-RCP-809, Isotopic Characterization, Scaling Factor Utilization, and Waste Classification of Radioactive Waste Streams for Offsite Shipments and/or Near Surface Disposal, Ver.16.0
 FNP-0-RCP-810, Shipment of Radioactive Waste, Ver. 44.0
 FNP-0-RCP-811, Shipment of Radioactive Material, Ver. 34.0
 FNP-0-RCP-839, Segregation of Low Level Solid Wastes, Rev. 6
 FNP-1-SOP-49.0, Solid Waste Processing System, Ver. 23.0
 FNP-1-SOP-50.0, Liquid Waste Processing System, Ver. 52.0
 FNP-1-SOP-50.4, Demineralizer Resin Removal and Addition, Ver. 32.0
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 Radioactive Waste Shipment (RWS) 06-11, Primary Resin, 02/18/06

RWS 05-24, LWP Mixed Media, 12/02/05
 RWS 05-11, DAW Sealands, 07/15/05
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 RWS 05-02, Filter HIC, 02/23/05
 10 CFR Part 61 Radioactive Waste Stream Analysis Reports, SFP filters, RCS filters, and DAW, 2004 and 2005
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 CoC no. 9208, Model No. 10-142 Shipping Package, Rev. 15
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 CR 2005100836, QA Audit F-CRW-2004, Comment # 2: Potential misclassification of radioactive waste shipments, 01/21/05
 CR 2005108566, Challenges in cleaning sludge from Floor Drain Tank, 08/26/05
 CR 2005111241, When loading DAW found 2 bags of trash with incorrect dose rates marked on the bags, 11/06/05
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 CR2006102506, Active leaks in the roof of the LLRWB, 03/21/06
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 Health Physics Self Assessment, December 06, 2004 to December 10, 2004
 QA Surveillance # 2004-04, Primary Spent Resin Cask Shipment, 02/17/04

Section: 40A1 Performance Indicator Verification

Procedures

FNP-0-AP-54, Preparation and Reporting of NRC Performance Indicator Data and NRC Operating Data, Ver. 6.0

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 Special Report 2005-001-00, Inoperable Radiation Monitor R-29B
 OOS effluent monitor logs, 6/1/05 - 3/6/06
 Gaseous effluent release permits 50387.027.057.G and 60071.017.010.G
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 CR 2006100073, Isolation valve RCV-23B failed to close on high radiation signal from steam generator blow down monitor R23B during surveillance test, 1/5/06

Section 4OA2: Identification and Resolution of Problems

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Section 4OA5: Other Activities

A-173444, Power Quality Guide
 BPO-1, Bulk Power Operations
 FNP-1-SOP-28.1, Turbine Generator Operations
 FNP-0-SOP-38.0, Diesel Generators
 FNP-0-ACP-4, Switchyard control
 FNP-1-STP-27.1, A.C. Source verification
 FNP-0-ACP-52.3, On-Line Risk Assessment
 FNP-1-AOP-5.2, Degraded Grid
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FNP-0-STP-822, Hi-Storm Overpack Surface Dose Rates, Ver. 2.0
 Certificate of Compliance (CoC) No. 1014 for the Holtec International Hi-Storm 100 Cask System, Amendment No. 2
 Holtec Report No. HI-2053364, Hi-Storm CoC Radiation Protection Program Dose Rate Limits for SNC, 03/01/05

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